

What is claimed is:

1. A transporter for transporting a first user and at least one additional rider over a surface, the transporter comprising:
  - 5       a first support platform for supporting the first user, the first support platform having left and right sides and defining a fore-aft vertical plane and a lateral plane;
  - at least one ground-contacting element coupled to the first support platform such that the first support platform is capable of tilting in the fore-aft plane about a tilt axis;
  - a motorized drive arrangement for driving the at least one ground-contacting
  - 10       element so as to cause locomotion of the transporter;
  - a controller for commanding the motorized drive arrangement, the controller configured so that at least one of fore and aft sustained motion of the transporter is based at least on fore-aft tilting of the first support platform; and
  - one or more passenger platforms for supporting the at least one additional rider.
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2. The transporter according to claim 1, wherein at least one of the passenger platforms is pivotally coupled to the first support platform in such a manner that fore-aft tilting of the first support platform is substantially independent of the passenger platforms.
- 20 3. The transporter according to claim 1, wherein the first support platform includes a pivot member characterized by a pivot axis proximate to said tilt axis for coupling at least one of the passenger platforms to the first support platform, the pivot axis being perpendicular to the fore-aft plane.
- 25 4. The transporter according to claim 4, wherein the pivot axis coincides with the tilt axis.
5. The transporter according to claim 1, wherein at least one of the passenger platforms includes an arm having an end for coupling to the pivot member.
- 30 6. The transporter according to claim 5, wherein the arm is shaped to avoid contact with the first platform when the first platform is tilting.
7. The transporter according to claim 1, wherein at least one auxiliary ground-contacting element is coupled to each of the passenger platforms.

8. The transporter according to claim 7, wherein the at least one auxiliary ground-contacting element is a wheel.

5 9. The transporter according to claim 7, wherein the wheel can swivel about a vertical axis in response to turns made by the transporter.

10 10. The transporter according to claim 7, wherein weight of a rider on one of the passenger platforms is borne primarily by the at least one auxiliary ground-contacting element.

11. The transporter according to claim 7, wherein the at least one auxiliary ground-contacting element is one of a ski and a skid.

15 12. The transporter according to claim 1, wherein at least one passenger platform includes at least one seat.

13. The transporter according to claim 1, wherein at least one of the passenger platforms is coupled to the first platform via a ball joint.

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14. The transporter according to claim 1, wherein at least one of the passenger platforms is coupled to the first platform via a U-joint.

25 15. The transporter according to claim 1, wherein at least one of the passenger platforms includes a substantially vertical support column.

16. The transporter according to claim 1, wherein at least one of the passenger platforms includes both a right support platform for supporting a rider's first foot, and a left support platform for supporting the rider's second foot.

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17. The transporter according to claim 1, wherein the controller commands the motorized drive arrangement such that stability of the first support platform is dynamically maintained.

18. A transporter for supporting a first user and at least one rider over a surface, each rider having a first and second foot, the transporter comprising:

a first support platform for supporting the first user, the first support platform having left and right sides and defining a fore-aft vertical plane and a lateral plane;

5 at least one ground-contacting element coupled to the first support platform such that the first support platform is capable of tilting in the fore-aft plane;

a motorized drive arrangement for driving the at least one ground-contacting element so as to cause locomotion of the transporter;

a controller for commanding the motorized drive arrangement, the controller  
10 configured so that at least one of fore and aft motion of the transporter is based at least on tilting of the first support platform;

one or more right support platforms for supporting the first foot of the at least one rider; and

one or more left support platforms for supporting the second foot of the at least  
15 one rider.

19. The transporter according to claim 18, wherein at least one right ground-contacting element is coupled to at least one of the right support platforms; and wherein at least one left ground-contacting element is coupled to at least one of the left support platforms.

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20. The transporter according to claim 18, wherein at least one of the right support platforms is coupled to the first support platform such that fore-aft tilting of the first support platform is substantially independent of the at least one of the right support platforms, and wherein at least one of the left support platforms is coupled to the first  
25 support platform such that fore-aft tilting of the first support platform is substantially independent of the at least one of the left support platforms.

21. The transporter according to claim 18, wherein the controller commands the motorized drive arrangement such that stability of the first platform is dynamically  
30 maintained.

22. The transporter according to claim 18, wherein the right and left ground-contacting elements are one of a wheel, a ski and a skid.

23. The transporter according to claim 18, wherein the first support platform includes:  
     a first pivot member characterized by a first pivot axis proximate to said tilt axis  
     for coupling at least one of the right support platforms to the first support platform; and  
     a second pivot member characterized by a second pivot axis proximate to said tilt  
 5 axis, for coupling the at least one of the left support platforms to the first support  
 platform, wherein the first and second pivot axis are perpendicular to the fore-aft plane.

24. A method of using a transporter to transport a first user and at least one rider over a  
 surface, the method comprising:

10 supporting the user on a first support platform, the first support platform defining  
 a fore-aft vertical plane and a lateral plane, the first support platform coupled to at least  
 one ground-contacting element such that the first support platform is capable of tilting in  
 the fore-aft plane;

supporting the at least one rider on one or more passenger platforms; and

15 controlling a motorized drive arrangement coupled to the at least one ground-  
 contacting element such that sustained motion of the transporter is based at least on fore-  
 aft tilting of the first support platform.

25. The method according to claim 24, wherein controlling the motorized drive  
 20 arrangement is based at least on maintaining dynamic stability of the first support  
 platform.

26. The method according to claim 24, further including attaching at least one of the  
 passenger platforms to the first support platform such that fore-aft tilting of the first  
 25 support platform is substantially independent of the at least one of the passenger  
 platforms.

27. The method according to claim 24, further including attaching at least one auxiliary  
 ground unit to at least one of the passenger platforms.

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28. A method of using a transporter to transport a first user and at least one rider over a  
 surface, the at least one rider having a first and second foot, the method comprising:

supporting the first user on a first support platform, the first support platform  
 defining a fore-aft vertical plane and a lateral plane, the first support platform coupled to

at least one ground-contacting element such that the first support platform is capable of tilting in the fore-aft plane;

supporting the first foot of the at least one rider on a right support platform, the right support platform coupled to the first support platform such that fore-aft tilting of the first support platform is substantially independent of the right support platform, the right support platform coupled to at least one right ground-contacting element;

supporting the second foot of the at least one rider on a left support platform, the left support platform coupled to the first support platform such that fore-aft tilting of the first support platform is substantially independent of the left support platform, the left support platform coupled to at least one right ground-contacting element; controlling a motorized drive arrangement coupled to the at least one ground-contacting element such that sustained motion of the transporter is based at least on fore-aft tilting of the first support platform.

29. The method according to claim 28, wherein controlling the motorized drive arrangement is based at least on maintaining dynamic stability of the first support platform.